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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,031	11/06/2003	Hirokatsu Amanuma	107348-00383	7424

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ARENT FOX PLLC
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER

SHRIVER II, JAMES A

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/702,031

Applicant(s)

AMANUMA ET AL.

Examiner

J. Allen Shriver

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/6/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. **Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.** In line 5 of claim 1, the phrase “so that they are driven or regenerated” is vague and indefinite. First, it is not clear what “they” represents. They could represent the motors/generators or the accumulating means. Second, if “they” represents the motor/generator, Examiner is not sure how the motor/generator is “regenerated”.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1 and 8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Niwa et al. (US Patent 6,454,364 B1).** Niwa et al. discloses a hybrid vehicle (See Fig. 1) in which an engine (12) is connected to first driven wheels (26FL,26FR) through a motor/generator (14) and

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a transmission (18), and a second motor/generator (42) is connected to second driven wheels (34RL,34RR), said first and second motors/generators being connected to an accumulating means so that they are driven or regenerated (although the reference is silent as to the battery which stores the electrical energy used and produced by the motor/generators, this element is inherent to the operation of the vehicle), wherein the distribution ratio of braking forces to the first and second motors/generators is controlled to become an ideal distribution ratio corresponding to a longitudinal acceleration of the vehicle during regenerative braking of the vehicle (See column 4, lines 23-27 and column 6, lines 17-21); **[claim 8]** wherein, during operation of a mechanical brake (44), a braking force for the second driven wheels is determined depending on said ideal distribution ratio is generated by the second motor/generator and the mechanical brake, and a deficiency of the regenerative braking force for the second motor/generator limited by the remaining capacity of the accumulating means is made up by a braking force of the mechanical brake; and **[claim 9]** wherein, when the braking force of the mechanical brake exceeds a predetermined value, a threshold value for the remaining capacity of the accumulating means permitting the regenerative braking of the second motor/generator is increased.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. (US Patent 6,454,364 B1) in view of Hughes (US Patent 6,724,165 B2).** Niwa et al. discloses the hybrid vehicle as set forth above, but does not disclose wherein the regenerative braking of the first and second motors/generators is prohibited during an ABS control. Hughes discloses wherein regenerative braking of the motor/generator is prohibited during an ABS control (See column 1, lines 50-59). At the time of the invention, it would have been obvious to a person of ordinary skill in this art to prohibit the regenerative braking of the motor/generator disclosed in Niwa et al. during an ABS control as taught in Hughes. The motivation for doing so would have been to safely provide braking of the vehicle during an emergency situation.

7. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa et al. (US Patent 6,454,364 B1) in view of Kosik et al. (US Patent 6,588,860 B2).** Niwa et al. discloses the hybrid vehicle as set forth above including wherein the first and second driven wheels are front and rear wheels, respectively, but does not disclose wherein the distribution ratio of the regenerative braking force to the second motor/generator is increased in accordance with a decrease in a road surface friction coefficient. Kosik et al. discloses wherein the amount of regenerative braking is adjusted according to the temperature (which inherently deduces that the road conditions could have snow and ice when ambient temperature is below the freezing point). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in this art to reduce the amount of regenerative braking when the road surface friction coefficient decreases due to snow and ice of the road. The motivation for doing so would have been to allow the wheels to rotate freely during these road conditions, because any

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braking force applied to the wheels might cause the wheels to slip on the snow and ice on the road surface.

Allowable Subject Matter

8. Claims 2-7 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record in the accompanying PTO Form 892 and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Allen Shriver whose telephone number is (571) 272-6698. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris P. Ellis can be reached on (571) 272-6914. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

As of May 1, 2003, any response to this action should be mailed to:

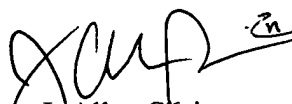
Mail Stop _____
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Or faxed to: (703) 872-9306 (for formal communications intended for entry). (571) 273-6698 (for informal communications directly to the Examiner).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thursday, April 28, 2005



J. Allen Shriver
Examiner
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JAS